

In another preferred embodiment, the modified PSMA ligand is detected by radiosciintigraphy, magnetic resonance imaging (MRI), computed tomography (CT scan), or positron emission tomography (PET).

In another preferred embodiment, the contacting step (a) is effected by administering to the patient the modified PSMA ligand. In another preferred embodiment, the detecting step (b) includes determining the volume, shape and/or location of PSMA-expressing cells in the patient.

Another aspect of the invention provides a method for determining the abundance of PSMA in a sample, comprising:

- (a) contacting the sample with any one of the modified PSMA ligands of claims 1-5, 11, and 17-20;
- (b) determining the abundance of the modified PSMA ligands bound to PSMA, or the abundance of the modifying group of said bound ligands, thereby determining the abundance of PSMA in said sample.

In a preferred embodiment, the sample is prostatic fluid, urine, or obtained from seminal plasma.

Another aspect of the invention provides a method to diagnose, in a test sample, the presence of a prostate disease condition associated with PSMA-overexpression, comprising:

- (a) using the method of ~~claim 52~~, determining the abundance of PSMA in the test sample and a normal control sample; CT 2/2/05
- (b) comparing the level of abundance of PSMA in the test sample and the control sample;

wherein statistically significant higher levels of abundance of PSMA in the test sample indicates the presence of a prostate disease condition associated with PSMA-overexpression.

Another aspect of the invention provides a method to treat a patient suffering from a disease condition associated with PSMA-overexpression, comprising administering to the patient an effective amount of modified PSMA ligand of the instant invention.